

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-58 (Cancelled)

59. (new) An intercoupling component for receiving an array of contacts comprising:  
a substrate formed of a non-conductive material and having an upper surface, the  
substrate including a plurality of holes disposed on its upper surface and arranged in a  
predetermined footprint corresponding to the array of contacts; and

a plurality of contacts, each signal contact disposed at least partially within a hole on the  
substrate,

the substrate including a plurality of cavities, each of the cavities disposed between  
adjacent contacts.

60. (new) The intercoupling component of claim 59 wherein the cavities are formed  
on the upper surface of the substrate and are open to air.

61. (new) The intercoupling component of claim 59 wherein the cavities are formed  
between the upper surface and a lower surface of the substrate and are open to air.

62. (new) The intercoupling component of claim 59 wherein the substrate is formed  
of a material having a first dielectric constant, the intercoupling component further comprising:  
dielectric material disposed within the cavity and having a second dielectric constant.

63. (new) The intercoupling component of claim 62 wherein the first dielectric constant is lower than the second dielectric constant.

64. (new) The intercoupling component of claim 59 further comprising an air-filled glass sphere disposed within a cavity.

65. (new) The intercoupling component of claim 59 further comprising an insert formed of Teflon® disposed within a cavity.

66. (new) The intercoupling component of claim 59, wherein at least some of the plurality of contacts are adapted to transmit single-ended signals.

67. (new) The intercoupling component of claim 59 wherein at least some of the plurality of contacts are adapted to connect to a reference ground circuit of a digital or analog transmission system.

68. (new) The intercoupling component of claim 59, wherein the plurality of contacts comprises:

two or more pair of contacts, each pair of contacts adapted to transmit differential signals.

69. (new) The intercoupling component of claim 68 wherein at least some of the cavities are formed between each pair of contacts adapted to transmit differential signals.

70. (new) The intercoupling component of claim 68 , wherein the plurality of contacts further comprises:

a reference ground contact grouped with each pair of signal contacts, wherein the reference ground contact is configured to electrically connect with an electrical ground circuit of a digital or analog transmission system.

71. (new) The intercoupling component of claim 59 further comprising:  
a frame formed of electrically conductive material disposed at least partially around one or more contacts, wherein the frame is adapted to electrically connect to a chassis ground circuit of a digital or analog transmission system.

72. (new) The intercoupling component of claim 59 further comprising:  
a shield member formed of electrically conductive material at least partially disposed within the substrate, wherein the shield member is configured to electrically connect with a chassis ground circuit of a digital or analog transmission system.

73. (new) The intercoupling component of claim 72 further comprising:  
a frame formed of electrically conductive material located around the pairs of signal contacts and electrically connected to the chassis ground circuit.

74. (new) An intercoupling component comprising:  
a substrate formed of non-conductive material having a first dielectric constant, the substrate having an upper surface and including a first hole and a second hole disposed on its upper surface;  
a first conductor disposed at least partially within the first hole; and  
a second conductor disposed at least partially within the second hole,  
the substrate including a cavity disposed between the first and second conductor, wherein the cavity is filled with non-conductive material having a second dielectric constant.

75. (new) The intercoupling component of claim 74 wherein the cavity is filled with air.

76. (new) The intercoupling component of claim 74 wherein the cavity is disposed on the upper surface of the substrate.

77. (new) The intercoupling component of claim 74 wherein the cavity is disposed between the upper surface and a lower surface of the substrate.

78. (new) The intercoupling component of claim 74 wherein the first dielectric constant is less than the second dielectric constant.

79. (new) The intercoupling component of claim 74 wherein the first dielectric constant is greater than the second dielectric constant.

80. (new) An apparatus for use in a digital or analog transmission system, the circuit card comprising:

a printed circuit board; and

an interconnection device coupled to the printed circuit board, the interconnection device comprising:

a substrate formed of a non-conductive material and having an upper surface, the substrate including a plurality of holes disposed on its upper surface and arranged in a predetermined footprint corresponding to an array of contacts; and

a plurality of contacts, each signal contact disposed at least partially within a hole on the substrate,

the substrate including a plurality of cavities, each of the cavities disposed between adjacent contacts.

81. (new) The apparatus of claim 80 wherein the cavities are formed on the upper surface of the substrate and are open to air.

82. (new) The apparatus of claim 80 wherein the cavities extend between the top and bottom surfaces of the substrate.

83. (new) The apparatus of claim 80 wherein the substrate is formed of a material having a first dielectric constant, the intercoupling component further comprising:  
dielectric material disposed within the cavity and having a second dielectric constant.

84. (new) The apparatus of claim 83 wherein the first dielectric constant is lower than the second dielectric constant.

85. (new) The apparatus of claim 80, wherein at least some of the plurality of contacts are adapted to transmit single-ended signals.

86. (new) The apparatus of claim 80 wherein at least some of the plurality of contacts are adapted to connect to a reference ground circuit of a digital or analog transmission system.

87. (new) The apparatus of claim 80, wherein the plurality of contacts comprises:  
two or more pair of contacts, each pair of contacts adapted to transmit differential signals.

88. (new) The apparatus of claim 87 wherein at least some of the cavities are formed between each pair of contacts adapted to transmit differential signals.

89. (new) The apparatus of claim 87, wherein the plurality of contacts further comprises:

a reference ground contact grouped with each pair of signal contacts, wherein the reference ground contact is configured to electrically connect with an electrical ground circuit of a digital or analog transmission system.